Level of Independence

An import aspect of performing mission assurance is the consideration of the potential bias of the personnel responsible for the activities. Assurance agents with independence from a program can be capable of providing impartial assessment more readily than "In-line" counterparts within the program. Independence from a program has two primary aspects; (1) separation from the reporting path to program management (e.g., Who do they report to daily? Who does their yearly evaluation?) and (2) the determination of whether the assurance agent's funding comes from within or without the program and where (e.g., program, center-funded pool, NASA headquarters, Congress).

When developing the matrix section of an Assurance Process Map, a range of values can be developed that covers the level of independence spectrum; from completely within a program, to within NASA, to a higher governmental organization. In the example provided below, the managerial and financial aspects are weighted together and matched against the brief descriptions to provide the best overall choice of six.

Levels of Assurance Process Capability

Levels of Penetration
0. No Penetration
1. Low Penetration - Evaluation of customer feedback and assessment of the supplier's data and metrics, including reviewing a minimum set of information to assure compliance with requirements.
2. Basic Penetration - Assessment of the supplier's processes, including daily or weekly involvement in processes / tasks to identify and resolve issues and assure product or process compliance.
3. Intermediate Penetration - Task observation of the supplier's processes, including sampling a minimum set of product or process data to assure product or process compliance.
4. In Depth Penetration - In depth observation of the supplier's processes, including independent assessments and detailed monitoring of the processes / tasks
5. Total Penetration - In-line involvement with the supplier's processes, including complete and independent evaluation as well as detailed participation in the processes / tasks.

Levels of Independence
0. Program/Project Manager's In-Line Checking Functions / Reports Assessment to Program Manager (e.g., SSP/SMA managers, quality assurance, inspection)
1. In-Line Resources for Assurance Activity / Reports Assessment to Authorities Within Upper Line Management (e.g., NASA/HQ OSF Review Team)
2. Organizationally funded / Not In-Line / Reports Assessment to Upper/Top Program Line Management (e.g., NASA SMA Review Team, NASA HEDS Assurance Board)
3. Organizationally funded / Not In-Line / Reports Assessment to Organizational Authority Outside (above) Program Line Management (e.g., NASA Aerospace Safety Advisory Panel)
4. Organizationally Funded / Reports Assessment to Authorities Outside Organization (e.g., funded by NASA and reports to Congress or White House - Gehman Board, Rogers Commission)
5. Receives Resources from and Reports to a Different Organization (e.g., General Accounting Office).

Example Level of Independence Matrix Entry

NESC APL Chief Engineer
Overall Level of Independence 3
Financial: Funded organizationally (3)
Managerial: Reports to Chief Engineer Office, not in-line (3)